

**REMOTE GAS MOLECULE DETECTOR****ABSTRACT OF THE DISCLOSURE**

The present invention provides a system and an apparatus for remotely detecting a  
5 gas molecule. The apparatus includes a diode laser for emitting radiation at a maximum  
absorption band of the gas molecule to be detected and a single mode fiber connected to  
the diode laser for narrowing spatial inhomogeneous of the radiation. The intensity of the  
laser diode depends on amount of the feeding current. Laser diode's temperature is  
stabilized by a thermistor and peltier element. The current feeding into the pump current  
10 adjusts and stabilizes the temperature of the diode laser. After going through an optical  
scheme, the radiation may be absorbed by the present gas molecule. The photodetector  
will detect whether absorption has occurred or not. This type of detection is utilized in  
detecting alcohol molecule in an enclosure such as a vehicle.